

IN THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A permanent magnet reluctance motor comprising:
a stator having an armature coil;

a rotor configured for providing magnetic irregularities in a circumferential direction wherein the rotor includes permanent magnets in a plurality of permanent magnet embedding holes within a rotor core wherein a magnetic flux of an armature passing through between adjacent magnetic poles is canceled, and wherein the rotor further includes non-magnetic regions on a circumferential side of said permanent magnets between said magnetic poles; and

a plurality of projections configured to fix positional location of said permanent magnets, the plurality of projections configured to project into said permanent magnet embedding holes within said core of said rotor, at least one of the plurality of projections having a substantially planar surface portion configured to planarly contact a length of at least one side of the permanent magnet, the length being bound by an edge of the permanent magnet.

2. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein said projections for positional location of said permanent magnets are

provided on opposite edges of said permanent magnet embedding holes of edges of said non-magnetic regions.

3. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein said projections for positional location of said permanent magnets are provided on edges of said permanent magnet embedding holes on sides of said non-magnetic regions.

4. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein said projections for positional location of said permanent magnets are provided so as to project towards centers of said permanent magnet embedding holes into recesses corresponding to said projections.

5. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein the length of the at least one side of the permanent magnet where said permanent magnet and said projection make contact is 5% to 75% of the length of the at least one side of the permanent magnet.

6. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein a centrifugal force on said permanent magnet is supported by a face intersecting a direction of magnetization of said permanent magnet at right angles and on an opposite side of said permanent magnet embedding hole to a side of the non-magnetic region.

7. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein a radiussed portion of a root of said projection for positional location of said permanent magnet is provided on a side of a face intersecting a direction of magnetization of said permanent magnet at right angles and on an opposite side to a side of said non-magnetic region.

8. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein a length in a circumferential direction of a circumferential-side thin-wall region of said permanent magnet embedding hole in said rotor core is no more than 450% of a thickness of said thin-wall region in a radial direction.

9. (Previously Presented) The permanent magnet reluctance motor of claim 8, wherein a thickness in a radial direction of said circumferential-side thin-wall region of the permanent magnet embedding hole in said rotor core is at least 0.5 mm.

10. (Previously Presented) The permanent magnet reluctance motor of claim 1, wherein a length in a radial direction of a bridge region between adjacent permanent magnet embedding holes in said rotor core is no more than 450% of a thickness in a circumferential direction of a bridge region on a side nearest a center.

11. (Previously Presented) The permanent magnet reluctance motor of claim 10, wherein a thickness on the side nearest the center in a circumferential direction of

said bridge region between adjacent permanent magnet embedding holes in said rotor core is at least 0.5 mm.